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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/747,795	12/21/2000	Charles A. Drake		4636

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Rodney B Carroll  
Conley Rose P C  
5700 Granite Parkway Suite 330  
Plano, TX 75024

EXAMINER

GRIFFIN, WALTER DEAN

ART UNIT PAPER NUMBER

1764

DATE MAILED: 01/07/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/747,795

Applicant(s)

DRAKE ET AL.

Examiner

Walter D. Griffin

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1764

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 28 November 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 2-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on November 28, 2003 has been entered.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 2-6, 10-12, and 17-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Pelrine (US 5,087,782).

The Pelrine reference discloses a process for upgrading an oligomerization product such as polyalphaolefins. The process comprises contacting the oligomerization product with hydrogen and a catalyst to produce an upgraded product. In addition to dehydrocyclization reactions, the oligomerization product also undergoes concurrent hydrotreatment. The hydrotreatment would necessarily comprise the claimed cracking, isomerization, and hydrogenation reactions because the disclosed feeds, conditions, and catalysts are the same as

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claimed. Specifically, the catalyst comprises a zeolite such as ZSM-5, a Group VIII metal such as platinum, and a support material such as alumina. The process is conducted at temperatures ranging from 50° to 700°C and pressures ranging from 20 to 1000 psig. As shown in Table 1, the upgraded product may have a viscosity index that is greater than 140 and is higher than the viscosity index of the feed. While not explicitly disclosed, the product would also have a pour point as claimed since the feed and process conditions are the same as claimed. See column 2, lines 48-68; column 3, lines 1-3, 14-20, and 43-68; column 4, lines 1, 2, and 31-40; column 6, lines 7-21, 40-54, and 62-68; column 7, lines 44-51; and he claims.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any

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evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 7-9 and 13-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pelrine (US 5,087,782).

The Pelrine reference discloses a process for upgrading an oligomerization product such as polyalphaolefins. The process comprises contacting the oligomerization product with hydrogen and a catalyst to produce an upgraded product. In addition to dehydrocyclization reactions, the oligomerization product also undergoes concurrent hydrotreatment. The hydrotreatment would necessarily comprise the claimed cracking, isomerization, and hydrogenation reactions because the disclosed feeds, conditions and catalysts are the same as claimed. Specifically, the catalyst comprises a zeolite such as ZSM-5, a Group VIII metal such as platinum, and a support material such as alumina. The process is conducted at temperatures ranging from 50° to 700°C and pressures ranging from 20 to 1000 psig. As shown in Table 1, the upgraded product may have a viscosity index that is greater than 140 and is higher than the viscosity index of the feed. While not explicitly disclosed, the product would also have a pour point as claimed since the feed and process conditions are the same as claimed. See column 2, lines 48-68; column 3, lines 1-3, 14-20, and 43-68; column 4, lines 1, 2, and 31-40; column 6, lines 7-21, 40-54, and 62-68; column 7, lines 44-51; and the claims.

The Pelrine reference does not disclose the oligomerization product composition as in claims 7-9 and does not disclose the catalyst composition of claims 13-16.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Pelrine by utilizing the claimed

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oligomerization product because these claimed products are chemically and physically similar to the oligomers of Pelrine and therefore would be expected to be effectively treated in the process of Pelrine.

It also would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Pelrine by utilizing platinum amounts and ZSM-5 amounts within the claimed ranges because the disclosure of platinum amounts within the claimed range in combination with another zeolite in amounts within the claimed range indicates that the same amount of platinum in combination with ZSM-5 in amounts within the claimed range would be effective.

### *Response to Arguments*

The argument that the Pelrine reference does not disclose an upgrading process in which the oligomerization product undergoes selective/minor cracking, isomerization, and hydrogenation to form the claimed product is not persuasive because of the reasons stated above in the discussion of the claim rejections.

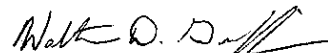
### *Conclusion*

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Walter D. Griffin whose telephone number is (571) 272-1447. The examiner can normally be reached on Monday-Friday 6:30 to 4:00 with alternate Fridays off.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0651.



Walter D. Griffin  
Primary Examiner  
Art Unit 1764

WG  
December 30, 2003